CLAIMS

What is claimed is:

Claim 1. A biopolymer marker selected from the group

SEQ ID No: 1

consisting of sequence ID, ~~(K)LFSDSPITVTVPVEVSR(K)~~,

SEQ ID No: 2   SEQ ID No: 3

~~(K)LFDSDPITVTVPVEVSR(K)~~, ~~(R)ASSIIDELFQDR(F)~~) or at least

one analyte thereof useful in indicating at least one

particular disease state.

Claim 2. The biopolymer marker of claim 1 wherein

said disease state is predictive of Alzheimers disease.

Claim 3. A method for evidencing and categorizing at

least one disease state comprising:

obtaining a sample from a patient;

conducting mass spectrometric analysis on said

sample;

evidencing and categorizing at least one biopolymer

marker sequence or analyte thereof isolated from said

sample; and,

comparing said at least one isolated biopolymer

marker sequence or analyte thereof to the biopolymer

marker sequence as set forth in claim 1;

wherein correlation of said isolated biopolymer

marker and said biopolymer marker sequence as set forth in claim 1 evidences and categorizes said at least one disease state.

Claim 4.   The method of claim 3, wherein said step of evidencing and categorizing is particularly directed to biopolymer markers or analytes thereof linked to at least one risk of disease development of said patient.

Claim 5.   The method of claim 3, wherein said step of evidencing and categorizing is particularly directed to biopolymer markers or analytes thereof related to the existence of a particular disease state.

Claim 6.   The method of claim 3, wherein the sample is an unfractionated body fluid or a tissue sample.

Claim 7.   The method of claim 3, wherein said sample is at least one of the group consisting of blood, blood products, urine, saliva, cerebrospinal fluid, and lymph.

Claim 8.   The method of claim 3, wherein said mass spectrometric analysis is selected from the group

consisting of Surface Enhanced Laser Desorption Ionization

(SELDI) mass spectrometry (MS), Maldi Qq TOF, MS/MS,

TOF-TOF, and ESI-Q-TOF or an ION-TRAP.

Claim 9.   The method of claim 3, wherein said

patient is a human.

Claim 10.   A diagnostic assay kit for determining

the presence of the biopolymer marker or analyte thereof

of claim 1 comprising:

at least one biochemical material which is capable of

specifically binding with a biomolecule which includes at

least said biopolymer marker or analyte thereof, and

means for determining binding between said

biochemical material and said biomolecule;

whereby at least one analysis to determine a presence

of a marker, analyte thereof, or a biochemical material

specific thereto, is carried out on a sample.

Claim 11.   The diagnostic assay kit of claim 10,

wherein said biochemical material or biomolecule is

immobilized on a solid support.

Claim 12.   The diagnostic assay kit of claim 10

including:

at least one labeled biochemical material.

Claim 13.   The diagnostic assay kit of claim 10, wherein said biochemical material is an antibody.

Claim 14.   The diagnostic assay kit of claim 12, wherein said labeled biochemical material is an antibody.

Claim 15.   The diagnostic assay kit of claim 10, wherein the sample is an unfractionated body fluid or a tissue sample.

Claim 16.   The diagnostic assay kit of claim 10, wherein said sample is at least one of the group consisting of blood, blood products, urine, saliva, cerebrospinal fluid, and lymph.

Claim 17.   The diagnostic assay kit of claim 10, wherein said biochemical material is at least one monoclonal antibody specific therefore.

Claim 18.   A kit for diagnosing, determining risk-assessment, and identifying therapeutic avenues related to

a disease state comprising:

   at least one biochemical material which is capable of specifically binding with a biomolecule which includes at least one biopolymer marker selected from the group consisting of [SEQ ID NO:1] ~~sequence ID, (K)~~LFSDSPITVTVPVEVSR(K), (K)LFDSDPITVTVPVEVSR(K), [SEQ ID NO:2] ~~(R)ASSIIDELFQDR(F)~~ or at least one analyte thereof related to said disease state; and

   means for determining binding between said biochemical material and said biomolecule;

   whereby at least one analysis to determine a presence of a marker, analyte thereof, or a biochemical material specific thereto, is carried out on a sample.

   Claim 19. The kit of claim 18, wherein said biochemical material or biomolecule is immobilized on a solid support.

   Claim 20. The kit of claim 18 including:

   at least one labeled biochemical material.

   Claim 21.   The kit of claim 18, wherein said biochemical material is an antibody.

   Claim 22.   The kit of claim 20, wherein said labeled

biochemical material is an antibody.

Claim 23.   The kit of claim 18, wherein the sample is an unfractionated body fluid or a tissue sample.

Claim 24.   The kit of claim 18, wherein said sample is at least one of the group consisting of blood, blood products, urine, saliva, cerebrospinal fluid, and lymph.

Claim 25.   The kit of claim 18, wherein said biochemical material is at least one monoclonal antibody specific therefore.

Claim 26.   The kit of claim 18, wherein said diagnosing, determining risk assessment, and identifying therapeutic avenues is carried out on a single sample.

Claim 27.   The kit of claim 18, wherein said diagnosing, determining risk assessment, and identifying therapeutic avenues is carried out on multiple samples such that at least one analysis is carried out on a first sample and at least another analysis is carried out on a second sample.

1   Claim 28. The kit of claim 27, wherein said first

2   and second samples are obtained at different time periods.

3

4   Claim 29. Polyclonal antibodies produced against a

5   marker sequence ID selected from the group consisting of

6   *SEQ ID No: 1* ~~sequence ID, (K)LFSDSPITVTVPVEVSR(K),~~

7   *SEQ ID NO: 2* ~~(K)LFDSDPITVTVPVEVSR(K),~~ *SEQ ID NO: 3* ~~(R)ASSIIDELFQDR(F)~~ or at least

8   one analyte thereof in at least one animal host.

9

10   Claim 30. An antibody that specifically binds a

11 biopolymer including a marker selected from the group

12 consisting of *SEQ ID NO: 1* ~~sequence ID~~ (K)LFSDSPITVTVPVEVSR(K),

13 *SEQ ID NO: 2* ~~(K)LFDSDPITVTVPVEVSR(K),~~ *SEQ ID NO: 3* ~~(R)ASSIIDELFQDR(F)~~ or at least

14 one analyte thereof.

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16   Claim 31. The antibody of claim 30 that is a

17 monoclonal antibody.

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19   Claim 32. The antibody of claim 30 that is a

20 polyclonal antibody.

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22   Claim 33. A process for identifying therapeutic

23 avenues related to a disease state comprising:

24   conducting an analysis as provided by the kit of

1   claim 18; and

2   interacting with a biopolymer selected from the group

3   consisting of ~~sequence ID (K)LFSDSPITVTVPVEVSR(K)~~, *SEQ ID NO:1*

4   ~~(K)LFDSDPITVTVPVEVSR(K)~~, ~~(R)ASSIIDELFQDR(F)~~ or at least *SEQ ID No:2* *SEQ ID No:3*

5   one analyte thereof;

6   whereby therapeutic avenues are developed.

7

8   Claim 34.   The process for identifying therapeutic

9   avenues related to a disease state in accordance with

10   claim 33, wherein said therapeutic avenues regulate the

11   presence or absence of the biopolymer selected from the

12   group consisting of sequence ID (K)LFSDSPITVTVPVEVSR(K),

13   (K)LFDSDPITVTVPVEVSR(K), (R)ASSIIDELFQDR(F) or at least

14   one analyte thereof.

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16   Claim 35.   The process for identifying therapeutic

17   avenues related to a disease state in accordance with

18   claim 33, wherein said therapeutic avenues developed

19   include at least one avenue selected from a group

20   consisting of 1)utilization and recognition of said

21   biopolymer markers, variants or moieties thereof as direct

22   therapeutic modalities, either alone or in conjunction

23   with an effective amount of a pharmaceutically effective

24   carrier; 2)validation of therapeutic modalities or disease

preventative agents as a function of biopolymer marker

presence or concentration; 3) treatment or prevention of a

disease state by formation of disease intervention

modalities; 4) use of biopolymer markers or moieties

thereof as a means of elucidating therapeutically viable

agents, 5) instigation of a therapeutic immunological

response; and 6) synthesis of molecular structures related

to said biopolymer markers, moieties or variants thereof

which are constructed and arranged to therapeutically

intervene in said disease state.

Claim 36.   The process for identifying therapeutic

avenues related to a disease state in accordance with

claim 35, wherein said treatment or prevention of a

disease state by formation of disease intervention

modalities is the formation of biopolymer/ligand

conjugates which intervene at receptor sites to prevent,

delay or reverse a disease process.

Claim 37.   The process for identifying therapeutic

avenues related to a disease state in accordance with

claim 35, wherein said means of elucidating

therapeutically viable agents includes use of a

bacteriophage peptide display library or a bacteriophage

antibody library.

Claim 38. A process for regulating a disease state
by controlling the presence or absence of a biopolymer
selected from the group consisting of SEQ ID NO: 1 ~~sequence ID~~
~~(K)LFSDSPITVTVPVEVSR(K)~~, SEQ ID NO: 2 ~~(K)LFDSDPITVTVPVEVSR(K)~~,
SEQ ID NO: 3 ~~(R)ASSIIDELFQDR(F)~~ or at least one analyte thereof.